



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,816	01/30/2004	Rudi Verbist	1875.4680001	5635

26111 7590 09/19/2005

STERNE, KESSLER, GOLDSTEIN & FOX PLLC  
1100 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
----------	--------------

2646

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/767,816	<b>Applicant(s)</b> VERBIST, RUDI	
	<b>Examiner</b> Walter F. Briney III	<b>Art Unit</b> 2646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Sabouri et al. (US Patent 6,925,172).**

**Claim 1** is limited to a *hybrid circuit for bidirectional communication over a communication line*. Sabouri discloses a line interface with gain feedback coupled matching impedance. See Abstract. As seen in figure 1, the interface provides a hybrid circuit, that is, a circuit to provide the coupling of a four-wire system (10,42) to a two-wire system (28). See column 2, lines 28-33. From here on out, where it is necessary to distinguish between balanced elements, a subscript "T" will be provided for the element closest to the top of the page and a subscript "B" will be provided for the element closest to the bottom of the page. Figure 1 clearly depicts that the input nodes (10) and the output nodes (42) are coupled with the primary (20) of the transformer that also includes secondary (26), the secondary including a connection to communication line (28). The primary clearly comprises two coils (20) that are serially coupled by way of middle impedance (24) at a first terminal of each of the two primary coils (20). The secondary terminals of the primary coils are again clearly coupled with the input nodes

(10). Also seen from figure 1 is that the first output (42<sub>B</sub>) is coupled to the first input (42<sub>T</sub>) by way of first impedance (36<sub>B</sub>) and is coupled to the first terminal of the second primary coil (20<sub>B</sub>) by way of second impedance (38<sub>B</sub>). Also seen from figure 1 is that the second output (42<sub>T</sub>) is coupled to the second input (42<sub>B</sub>) by way of third impedance (36<sub>T</sub>) and is coupled to the first terminal of the first primary coil (20<sub>T</sub>) by way of fourth impedance (38<sub>T</sub>). Therefore, Sabouri anticipates all limitations of the claim.

**Claim 2** is limited to *the hybrid circuit of claim 1*, as covered by Sabouri. Figure 1 depicts that the first input (10<sub>T</sub>) is coupled to the second terminal of the first primary coil (20<sub>T</sub>) by way of fifth impedance (14<sub>T</sub>). Figure 1 also depicts that the second input (10<sub>B</sub>) is coupled to the second terminal of the second primary coil (20<sub>B</sub>) by way of sixth impedance (14<sub>B</sub>). Therefore, Sabouri anticipates all limitations of the claim.

**Claim 3** is limited to *the hybrid circuit of claim 1*, as covered by Sabouri. Figure 1 depicts that the first input (10<sub>T</sub>) is coupled to the second terminal of the first primary coil (20<sub>T</sub>) and the first impedance (36<sub>B</sub>) by way of seventh impedance (14<sub>T</sub>). Figure 1 also depicts that the second input (10<sub>B</sub>) is coupled to the second terminal of the second primary coil (20<sub>B</sub>) and the third impedance (36<sub>T</sub>) by way of eighth impedance (14<sub>B</sub>). Therefore, Sabouri anticipates all limitations of the claim.

**Claim 4** is limited to *the hybrid circuit of claim 1*, as covered by Sabouri. As seen in figure 1, a filter (32) is provided in series with the second and fourth impedance. The filter presents substantially large out-of-band impedance that is simply not provided by the middle impedance (24). See column 4, lines 37-47. Therefore, Sabouri anticipates all limitations of the claim.

**Claim 5** is limited to *the hybrid circuit of claim 1*, as covered by Sabouri. In a balanced hybrid each element is mirrored. In this way, the first impedance (36<sub>B</sub>) and the third impedance (36<sub>T</sub>) are equal. Therefore, Sabouri anticipates all limitations of the claim.

**Claim 6** is limited to *the hybrid circuit of claim 1*, as covered by Sabouri. In a balanced hybrid each element is mirrored. In this way, the second impedance (38<sub>B</sub>) and the fourth impedance (38<sub>T</sub>) are equal. Therefore, Sabouri anticipates all limitations of the claim.

**Claim 7** is limited to *the hybrid circuit of claim 2*, as covered by Sabouri. In a balanced hybrid each element is mirrored. In this way, the fifth impedance (14<sub>T</sub>) and the sixth impedance (14<sub>B</sub>) are equal. Therefore, Sabouri anticipates all limitations of the claim.

**Claim 8** is limited to *the hybrid circuit of claim 3*, as covered by Sabouri. In a balanced hybrid each element is mirrored. In this way, the seventh impedance (14<sub>T</sub>) and the eighth impedance (14<sub>B</sub>) are equal. Therefore, Sabouri anticipates all limitations of the claim.

**Claim 9** is limited to *the hybrid circuit of claim 1*, as covered by Sabouri. In communications, a received signal is inherently received within a receiving frequency range. The balancing impedance (24) clearly provides a substantial match to the impedance of the communication line (28), the value inherently determined by the turns ratio of the transformer including coils (20) and (26). In one example, Sabouri discloses that the balancing impedance (24) comprises a simple resistor, which means the

balance impedance provides a complex conjugate with a reactive impedance of  $0\ \Omega$ .  
See column 2, lines 42-49. Therefore, Sabouri anticipates all limitations of the claim.

**Claim 10** is limited to *the hybrid circuit of claim 2*, as covered by Sabouri. In communications, a received signal is inherently received within a receiving frequency range. The series combination of the amplifier transmitter, including its associated impedances (i.e. fifth and sixth impedance), and the balancing impedance (24) clearly provides a substantial match to the impedance of the communication line (28), the value inherently determined by the turns ratio of the transformer including coils (20) and (26). See column 2, line 61, through column 3, line 24. In one example, Sabouri discloses that the balancing impedance (24) comprises a simple resistor, which means the balance impedance provides a complex conjugate with a reactive impedance of  $0\ \Omega$ . See column 2, lines 42-49. Therefore, Sabouri anticipates all limitations of the claim.

**Claim 11** is limited to *the hybrid circuit of claim 3*, as covered by Sabouri. In communications, a received signal is inherently received within a receiving frequency range. The series combination of the amplifier transmitter, including its associated impedances (i.e. seventh and eighth impedance), and the balancing impedance (24) clearly provides a substantial match to the impedance of the communication line (28), the value inherently determined by the turns ratio of the transformer including coils (20) and (26). See column 2, line 61, through column 3, line 24. In one example, Sabouri discloses that the balancing impedance (24) comprises a simple resistor, which means the balance impedance provides a complex conjugate with a reactive impedance of  $0\ \Omega$ . See column 2, lines 42-49. Therefore, Sabouri anticipates all limitations of the claim.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Gorcea et al. (US Patent 6,681,012)
- Ashley et al. (US Patent 5,528,630)
- Schley-May (US Patent 6,792,104)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F. Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**SINH TRAN**  
**SUPERVISORY PATENT EXAMINER**